

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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In re Application of:

John BORDER et al.

Application No.: 09/996,445

Filed: November 28, 2001

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Attorney Docket: PD-201191

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Confirmation No.: 2403

Group Art Unit: 2153

Examiner: Strange, A.

For: SYSTEM AND METHOD FOR READING AHEAD OF CONTENT

**APPEAL BRIEF**

Honorable Commissioner for Patents  
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is submitted in support of the Notice of Appeal dated November 21, 2007.

**I. REAL PARTY IN INTEREST**

Hughes Network Systems, LLC is the real party in interest.

**II. RELATED APPEALS AND INTERFERENCES**

Appellants are unaware of any related appeals and interferences.

### III. STATUS OF THE CLAIMS

Claims 1, 3-5, 8, 10-12, 15, 17-19, 22, 24-26, 29, 31-36, and 38 are pending in this appeal, in which claims 2, 6, 7, 9, 13, 14, 16, 20, 21, 23, 27, 28, 30, 37, and 39 have earlier been canceled. No claim is allowed. This appeal is therefore taken from the final rejection of claims 1, 3-5, 8, 10-12, 15, 17-19, 22, 24-26, 29, 31-36, and 38 on July 25, 2007.

### IV. STATUS OF AMENDMENTS

All amendments have been entered.

### V. SUMMARY OF THE INVENTION

The present invention addresses problems associated with user response time during web browsing. The present invention provides for an upstream proxy server for forwarding requested URL content, along with information about an object(s) embedded in the URL content, to a downstream proxy server and for parsing the URL content to obtain the embedded object prior to receiving a corresponding embedded object request message initiated by the web browser (Specification-paragraph [12]). The actual forwarding of the requested content may be based on predetermined criteria relating to the object. Such predetermined criteria may include, *inter alia*, a “time-to-live of the object” and “the object being marked as uncacheable” (Specification, paragraph [41]).

Independent claim 1 provides for the following:

1. A communication system (See, e.g., Fig. 1, element 100; Specification, page 6, ¶ [31]) comprising:

a downstream proxy server (See, e.g., Fig. 1, element 105; Specification, page 6, ¶ [31]) configured to communicate with a client (See, e.g., Fig. 1, element 101; Specification, page 6, ¶ [31]) that is configured to transmit a message requesting content including an Hypertext Markup Language (HTML) page specifying an object from a content server, wherein the message includes a cookie (See, e.g., Specification, page 8, ¶ [39]) associated with the client; and

an upstream proxy server (See, e.g., Fig. 1, element 107; Specification, page 6, ¶ [31]) configured to include the cookie in a read-ahead request if the cookie is supported by the content server, to retrieve the object, based on the cookie (See, e.g., Specification, page 8, ¶ [39]), from the content server and to forward the object based on a predetermined criteria relating to the object (See, e.g., Specification, pages 8-9, ¶ [40]), including time-to-live of the object and the object being marked as uncacheable, over a data network to the downstream proxy server prior to the client transmitting another message requesting the object (See, e.g., Specification, page 9, ¶ [41]).

Independent claim 8 provides for the following:

8. A method of providing content to a client (See, e.g., Fig. 1, element 101; Specification, page 6, ¶ [31]), the method comprising:

receiving a message, forwarded by a downstream server (See, e.g., Fig. 1, element 105; Specification, page 6, ¶ [31]), from the client;

determining whether the message includes a cookie associated with the client (See, e.g., Specification, page 8, ¶ [39]);

including the cookie in a read-ahead request if the cookie is supported by a content server (See, e.g., Specification, page 8, ¶ [39]);

retrieving the content including an Hypertext Markup Language (HTML) page specifying an object based on the read-ahead request and the cookie (See, e.g., Specification, page 7, ¶ [36]); and

forwarding the object over a communications link to the downstream server based on a predetermined criteria relating to the object, wherein the predetermined criteria includes time-to-live of the object and the object being marked as uncacheable, prior to the client transmitting a message requesting the object (See, e.g., Specification, page 9, ¶ [41]).

Independent claim 15 provides for the following:

15. A network device comprising:

means for receiving a message, forwarded by a downstream server, from the client (See, e.g., Fig. 1, element 101; Specification, page 6, ¶ [31]);

means for determining whether the message includes a cookie associated with the client (See, e.g., Specification, page 8, ¶ [39]);

means for including the cookie in a read-ahead request if the cookie is supported by a content server (See, e.g., Specification, page 8, ¶ [39]);

means for retrieving content including an Hypertext Markup Language (HTML) page specifying an object from a content server based on the read-ahead request and the cookie (See, e.g., Fig. 2, Specification, page 7, ¶ [36]); and

means for forwarding the object over a communications link to the downstream server based on a predetermined criteria relating to the object, including time-to-live of the object and the object being marked as uncacheable, prior to the client transmitting a message requesting the object (See, e.g., Specification, page 9, ¶ [41]).

Independent claim 22 provides for the following:

22. A computer-readable storage medium (See, e.g., Specification, page 18, ¶ [71]); carrying one or more sequences of one or more instructions for providing content to a client (See, e.g., Fig. 1, element 101; Specification, page 6, ¶ [31]), the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of:

receiving a message, forwarded by a downstream server, from the client (See, e.g., Fig. 1, element 105; Specification, page 6, ¶ [31]);

determining whether the message includes a cookie associated with the client (See, e.g., Specification, page 8, ¶ [39]);

including the cookie in a read-ahead request if the cookie is supported by a content server (See, e.g., Specification, page 8, ¶ [39]);

retrieving the content including an Hypertext Markup Language (HTML) page specifying an object based on the read-ahead request based on the cookie (See, e.g., Specification, page 7, ¶ [36]); and

forwarding the object over a communications link to the downstream server based on a predetermined criteria relating to the object, wherein the predetermined criteria includes time-to-live of the object and the object being marked as uncacheable, prior to the client transmitting a message requesting the object (See, e.g., Specification, page 9, ¶ [41]).

Independent claim 35 provides for the following:

35. A method of providing content to a client (See, e.g., Fig. 1, element 101; Specification, page 6, ¶ [31]), the method comprising:

receiving a message from a client requesting content including an Hypertext Markup Language (HTML) page specifying an object from a content server, wherein the message includes a cookie (See, e.g., Fig. 2, Specification, page 7, ¶ [36]);

transmitting the message to an upstream server configured to include the cookie in a request if the cookie is supported by the content server to retrieve the object based on the cookie from the content server and to determine whether the object is cacheable (See, e.g., Fig. 2, Specification, page 8, ¶¶ [39], [41]); and

receiving, from the upstream server, the object over a data network prior to the client transmitting another message requesting the object if the object is marked as uncacheable (See, e.g., Fig. 2, Specification, page 8, ¶ [38]).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

Whether claims 1, 3-5, 8, 10-12, 15, 17-19, 22, 24-26, 29, 31-36, and 38 are nonenabling under 35 U.S.C § 112, first paragraph?

## **VII. ARGUMENT**

**CLAIMS 1, 3-5, 8, 10-12, 15, 17-19, 22, 24-26, 29, 31-36, AND 38 ARE ENABLED, WITHIN THE MEANING OF 35 U.S.C. § 112, BECAUSE THE SKILLED ARTISAN WOULD BE ENABLED FROM THE INSTANT DISCLOSURE TO MAKE AND USE THE SUBJECT MATTER RECITED BY THE CLAIMS**

To comply with the enablement clause of the first paragraph of 35 U.S.C. 112, the disclosure must adequately describe the claimed invention so that the artisan could practice it without undue experimentation. *In Re Scarbrough*, 500 F.2d 560, 182 USPQ 298 (CCPA 1974); *In re Brandstadter*, 484 F.2d 1395, 179 USPQ 286 (CCPA 1973); *In re Gay*, 50 CCPA 725, 309 F.2d 769, 135 USPQ 311 (1962). If the Examiner had a reasonable basis for questioning the

sufficiency of the disclosure, the burden shifted to the Appellant to come forward with evidence to rebut this challenge. *In re Doyle*, 482 F.2d 1385, 179 USPQ 227 (CCPA 1973); *In re Brown*, 477 F.2d 946, 177 USPQ 691 (CCPA 1973); *In re Ghiron*, 58 CCPA 1207, 442 F.2d 985, 169 USPQ 723 (1971). However, the burden was initially upon the Examiner to establish a reasonable basis for questioning the adequacy of the disclosure. *In re Strahilevitz*, 668 F.2d 1229, 212 USPQ 561 (CCPA 1982), *In re Angstadt*, 537 F.2d 498, 190 USPQ 214 (CCPA 1976); *In re Armbruster*, 512 F.2d 676, 185 USPQ 152 (CCPA 1975).

In particular, the Examiner contends that the claim feature “forward the object based on a predetermined criteria relating to the object, including time-to-live of the object and the object being marked as uncacheable” is not enabling because the specification states that objects that have a time-to-live are cacheable, citing ¶41, lines 9-10. The Examiner explains further that since a cacheable object would never be marked “uncacheable,” “there is no way to forward an object based on this criteria, since no object would ever satisfy the criteria” (Final Rejection of July 25, 2007-page 5).

The Examiner’s rationale is based on a flawed hypothesis. The pertinent part of ¶41 states, “...and forward objects which have a short time to live since such objects, **while cacheable**, are less likely to still be fresh in the downstream server cache 115” (emphasis added). Thus, while the Examiner’s finding of nonenablement is based on the assumption that objects that have a time-to-live are **always** cacheable, the specification actually discloses that objects may or may not be cacheable; it does **not** disclose that objects with a time-to-live will always be cacheable.

The language of ¶41 merely discloses that while objects may or may not be cacheable, these objects are less likely to still be fresh. Accordingly, the forwarding of short time-to-live

objects is not always inconsistent with the forwarding of uncacheable objects, as the Examiner appears to interpret the disclosure.

Appellants would also point out that the use of the conjunctive “and” in the recitation of predetermined criteria including “time-to-live of the object **and** the object being marked as uncacheable...” does **not** require these two criteria to temporally co-exist as criteria for forwarding an object since the recitation of the conjunctive “and” is merely a statement that these two criteria exist together on a list of predetermined criteria relating to the object. It is noted that the list of predetermined criteria is open-ended, as evidenced by the use of the term “including,” as in the predetermined criteria relating to the object “**including** time-to-live of the object and the object being marked as uncacheable.” More predetermined criteria may exist but the claims on appeal require only that **at least these two predetermined criteria are on the list of predetermined criteria used to forward the object**. The use of the conjunctive “and” does not require that **both** of the listed criteria actually be employed each and every time a forwarding decision is made. It requires only that at least these two criteria (time-to-live of the object and the object being marked as uncacheable) are on the list of predetermined criteria relating to the object to be used in forwarding the object.

The pertinent language of ¶41 which is the crux of the problem for the Examiner is as follows: “For example, upstream server 107 may examine the HTTP headers of the objects and forward objects which have a short time to live since such objects, while cacheable, are less likely to still be fresh in the downstream server cache 115.” It is clear, especially when taken together with previous paragraphs, that this is merely an example of one situation. Moreover, it is clear that “while cacheable” is equivalent to “even if these objects can be cached.” It does not mean that **all** short time to live objects are, *per se*, cacheable, as unreasonably presumed by the



Examiner. The claim language in question is merely stating that even though a short time to live object may be cacheable, it may be forwarded, rather than cached, because its short time to live means it has been around for a while, i.e., probably not fresh, and should probably be forwarded due to its age, not due to its cacheability/uncacheability status. Thus, when the claims call for "...to forward the object based on a predetermined criteria relating to the object, including time-to-live of the object and the object being marked as uncacheable," it simply means, by the very clear language of the claims themselves, and in accordance with the disclosure, that the decision to forward an object is based on predetermined criteria, such predetermined criteria including, or comprising, time-to-live of the object and whether the object has been marked as uncacheable, without requiring the decision to forward to be based on both of these recited predetermined criteria at the same time. But even if the claim is interpreted to permit the decision to forward to be based on both of these predetermined criteria, the two criteria are **not** mutually exclusive, as argued by the Examiner, as an object **may** be both marked as uncacheable **and** have only a short time to live.

Thus, the Examiner did not have a reasonable basis for challenging the adequacy of disclosure because it was unreasonable to contend that "and" **required** both predetermined criteria of time-to-live of the object and the object being marked as uncacheable to be the basis for forwarding the object when the claims clearly recite these two criteria as being included on a list of predetermined criteria to be used for forwarding the object. This is made clear by the use of the open-ended term, "including" in the claims.

Appellants urge the Honorable Board to reverse the Examiner's rejection because the Examiner did not have a reasonable basis on which to challenge the sufficiency of disclosure regarding an alleged inconsistency in forwarded an object based on a criteria that can never be

satisfied. However, even if the Honorable Board should find that the Examiner had a reasonable basis on which to challenge the sufficiency of disclosure, the Honorable Board is still urged to reverse the Examiner's rejection because to whatever extent the Examiner may have presented a reasonable basis for challenging the sufficiency of disclosure, Appellants have clearly rebutted the challenge by explaining, *supra*, why the recited predetermined criteria form part of a list of acceptable predetermined criteria, and do not, necessarily, require the presence of the two recited predetermined criteria in order to forward the object, as contended by the Examiner.

When a rejection is made on the basis that the disclosure lacks enablement, it is incumbent upon the Examiner to explain why he/she doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions with acceptable evidence or reasoning which is inconsistent with the contested statement. The Examiner has not advanced any such evidence or an acceptable line of reasoning inconsistent with enablement and, therefore, has not sustained his/her burden.

The rejection of claims 1, 3-5, 8, 10-12, 15, 17-19, 22, 24-26, 29, 31-36, and 38 must be reversed, because the Examiner has erroneously concluded that objects are forwarded based on time-to-live of the object **and** the object being marked as uncacheable, and that an object with time-to-live is always cacheable so both of these criteria can never exist at the same time, making no object capable of being forwarded. For the reasons *supra*, the Examiner's rationale is unreasonable and, therefore, this Honorable Board is respectfully requested to reverse the Examiner's rejection of claims 1, 3-5, 8, 10-12, 15, 17-19, 22, 24-26, 29, 31-36, and 38 as relying on a nonenabling disclosure under 35 U.S.C § 112, first paragraph.

**VIII. CONCLUSION AND PRAYER FOR RELIEF**

For the foregoing reasons, Appellants request the Honorable Board to reverse the Examiner's rejection.

To the extent necessary, a petition for an extension of time under 37 C.F.R. §1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 504213 and please credit any excess fees to such deposit account.

Respectfully Submitted,

DITTHAVONG MORI & STEINER, P.C.

April 16, 2008  
Date

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**IX. CLAIMS APPENDIX**

## 1. A communication system comprising:

a downstream proxy server configured to communicate with a client that is configured to transmit a message requesting content including an Hypertext Markup Language (HTML) page specifying an object from a content server, wherein the message includes a cookie associated with the client; and

an upstream proxy server configured to include the cookie in a read-ahead request if the cookie is supported by the content server, to retrieve the object, based on the cookie, from the content server and to forward the object based on a predetermined criteria relating to the object, including time-to-live of the object and the object being marked as uncacheable, over a data network to the downstream proxy server prior to the client transmitting another message requesting the object.

## 2. (Canceled)

3. A system according to claim 1, wherein the downstream proxy server and the upstream proxy server communicate over a communications link that includes at least one of plurality of Transmission Control Protocol (TCP) connections to support parallel Hypertext Transfer Protocol (HTTP) transactions, and a multiplexed connection of HTTP transactions.

4. A system according to claim 1, wherein the data network includes at least one of a Very Small Aperture Terminal (VSAT) satellite network, and a terrestrial wide area network (WAN).

5. A system according to claim 1, further comprising:

other downstream proxy servers in communication with the upstream proxy server, the upstream proxy server multicasting the object to the downstream proxy servers over the data network.

6. (Canceled)

7. (Canceled)

8. A method of providing content to a client, the method comprising:

receiving a message, forwarded by a downstream server, from the client;

determining whether the message includes a cookie associated with the client;

including the cookie in a read-ahead request if the cookie is supported by a content server;

retrieving the content including an Hypertext Markup Language (HTML) page specifying an object based on the read-ahead request and the cookie; and

forwarding the object over a communications link to the downstream server based on a predetermined criteria relating to the object, wherein the predetermined criteria includes time-to-live of the object and the object being marked as uncacheable, prior to the client transmitting a message requesting the object.

9. (Canceled)

10. A method according to claim 8, wherein the communications link in the transmitting step includes at least one of plurality of Transmission Control Protocol (TCP) connections to support parallel Hypertext Transfer Protocol (HTTP) transactions, and a multiplexed connection of HTTP transactions.

11. A method according to claim 8, wherein the communications link in the transmitting step is established over a data network that includes at least one of a Very Small Aperture Terminal (VSAT) satellite network, and a terrestrial wide area network (WAN).

12. A method according to claim 8, further comprising:

retrieving the object; and

multicasting the object to the downstream server.

13. (Canceled)

14. (Canceled)

15. A network device comprising:

means for receiving a message, forwarded by a downstream server, from the client;

means for determining whether the message includes a cookie associated with the client;

means for including the cookie in a read-ahead request if the cookie is supported by a content server;

means for retrieving content including an Hypertext Markup Language (HTML) page specifying an object from a content server based on the read-ahead request and the cookie; and

means for forwarding the object over a communications link to the downstream server based on a predetermined criteria relating to the object, including time-to-live of the object and the object being marked as uncacheable, prior to the client transmitting a message requesting the object.

16. (Canceled)

17. A network device according to claim 15, wherein the communications link in the includes at least one of plurality of Transmission Control Protocol (TCP) connections to support parallel Hypertext Transfer Protocol (HTTP) transactions, and a multiplexed connection of HTTP transactions.

18. A network device according to claim 15, wherein the communications link is established over a data network that includes at least one of a Very Small Aperture Terminal (VSAT) satellite network, and a terrestrial wide area network (WAN).

19. A network device according to claim 15, wherein the object is retrieved and multicast to the downstream server.

20. (Canceled)

21. (Canceled)

22. A computer-readable storage medium carrying one or more sequences of one or more instructions for providing content to a client, the one or more sequences of one or more instructions including instructions which, when executed by one or more processors, cause the one or more processors to perform the steps of:

receiving a message, forwarded by a downstream server, from the client;

determining whether the message includes a cookie associated with the client;

including the cookie in a read-ahead request if the cookie is supported by a content server;

retrieving the content including an Hypertext Markup Language (HTML) page specifying an object based on the read-ahead request based on the cookie; and

forwarding the object over a communications link to the downstream server based on a predetermined criteria relating to the object, wherein the predetermined criteria includes time-to-live of the object and the object being marked as uncacheable, prior to the client transmitting a message requesting the object.

23. (Canceled)

24. A computer-readable medium according to claim 22, wherein the communications link in the transmitting step includes at least one of plurality of Transmission Control Protocol (TCP) connections to support parallel Hypertext Transfer Protocol (HTTP) transactions, and a multiplexed connection of HTTP transactions.



25. A computer-readable medium according to claim 22, wherein the communications link in the transmitting step is established over a data network that includes at least one of a Very Small Aperture Terminal (VSAT) satellite network, and a terrestrial wide area network (WAN).

26. A computer-readable medium according to claim 22, wherein the one or more processors further perform the step of:

retrieving the object; and

multicasting the object to the downstream server.

27. (Canceled)

28. (Canceled)

29. A method according to claim 8, further comprising:

forwarding a list specifying expected objects corresponding to the content, wherein the downstream server blocks requests from the client for objects on the list.

30. (Canceled)

31. A method according to claim 8, wherein the downstream server explicitly tracks objects stored in a local cache, the downstream server forwarding the message only if the object associated with the requested content is not stored in the local cache.

32. A device according to claim 15, further comprising:

means for forwarding a list specifying expected objects corresponding to the content, wherein the downstream server blocks requests from the client for objects on the list.

33. A device according to claim 15, further comprising:

means for determining whether the object is cacheable, wherein the object is forwarded if the object is cacheable.

34. A device according to claim 15, wherein the downstream server explicitly tracks objects stored in a local cache, the downstream server forwarding the message only if the object associated with the requested content is not stored in the local cache.

35. A method of providing content to a client, the method comprising:

receiving a message from a client requesting content including an Hypertext Markup Language (HTML) page specifying an object from a content server, wherein the message includes a cookie;

transmitting the message to an upstream server configured to include the cookie in a request if the cookie is supported by the content server to retrieve the object based on the cookie from the content server and to determine whether the object is cacheable; and

receiving, from the upstream server, the object over a data network prior to the client transmitting another message requesting the object if the object is marked as uncacheable.

36. A method according to claim 35, further comprising:

receiving a list specifying expected objects corresponding to the content; and  
blocking requests from the client for objects on the list from being transmitted to the  
upstream server.

37. (Canceled)

38. A method according to claim 35, further comprising:

explicitly tracking objects stored in a local cache; and  
forwarding the message, by the upstream server, only if the object associated with the  
requested content is not stored in the local cache.

39. (Canceled)

**X. EVIDENCE APPENDIX**

Appellants are unaware of any evidence that is required to be submitted in the present Evidence Appendix.

**XI. RELATED PROCEEDINGS APPENDIX**

Appellants are unaware of any related proceedings that are required to be submitted in the present Related Proceedings Appendix.